MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Selected official pages for procurement and maintenance review

PRODUCT BRAND

Siemens

PRODUCT MODEL

6ES7923-0BB00-0DB0

One-metre shielded SIMATIC connecting cable. Relevant section pages: 15, 33, 34, 56. Adjacent model text on shared pages is outside this product reference.

OFFICIAL SOURCE

SIMATIC TOP connect for S7-1500 and ET200MP; 2014 reference, Siemens copyright 04/2014

Siemens original documentation and product reference

Original system-reference pages identify this shielded 1 m cable and its limits. Other table entries are not substitutes. Separate connection modules are not implied to be included. This excerpt is not a complete installation procedure.

AMIKON PRODUCT SUPPORT

+86-18020776786 INFO@AMIKON.CN

AMIKONG.COM

Amikon Limited prepared this independent reference package. Selected manufacturer pages follow with their original content and pagination visible.

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠DANGER

indicates that death or severe personal injury **will** result if proper precautions are not taken.

⚠WARNING

indicates that death or severe personal injury **may** result if proper precautions are not taken.

⚠CAUTION

indicates that minor personal injury can result if proper precautions are not taken.

NOTICE

indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

⚠WARNING

Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of Siemens AG. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Siemens AG
Industry Sector
Postfach 48 48
90026 NÜRNBERG
GERMANY

℗ 04/2014 Subject to change

Copyright © Siemens AG .
All rights reserved

Safety notes

1

Warning

When electrical devices are operated, parts of these devices will necessarily carry dangerous voltages.

If these devices are not correctly handled/operated, this can result in death or severe injury as well as significant material damage.

Only appropriately qualified personnel may work on or in the vicinity of this device.

This device can only function correctly and safely if it is transported, stored, set up and installed correctly.

Before installation or maintenance work can begin, the system's main switch must be switched off and measures taken to prevent it being switched on again.

If this instruction is not followed, touching live parts can result in death or serious injury.

Component	Function	Figure
Connecting cable	Connecting cables connect the front connector module with the terminal modules. Connecting cables are available in the following versions: • 16-pin and 50-pin round cable (shielded or unshielded), pre-assembled[1] Max. length 10 m • 16-pin round-sheath ribbon cable (shielded or unshielded), for assembly by the user[2] Max. length 30 m • 2 x 16-pin round-sheath ribbon cable (unshielded), for assembly by the user[2] Max. length 30 m [1]Pre-assembled: One IDC connector (insulation displacement connector) (flat socket) at each end. [2]For assembly by the user. See "Assembling round-sheath ribbon cables".	
Terminal module	Digital and analog terminal modules in S7-1500 design are available for connecting the I/O signals. These are attached to the standard mounting rail. The terminal modules are available in the following connecting systems: • Push-in system • Screw-type terminals All digital terminal modules also have LED for channel display.	

Wiring SIMATIC TOP connect to the I/O modules 5

Introduction

You can use SIMATIC TOP connect system cabling to wire I/O modules with actuators/sensors. The SIMATIC TOP connect components used depend on the following factors:

- The I/O module to be wired and
- The connection system (screw-type terminal / push-in system, 1-wire, 3-wire, 2 A connection, relay or optocoupler).

5.1 SIMATIC TOP connect components and selection guide

Components for 16-pin connecting cable

The table below lists the SIMATIC TOP connect system cabling components for a 16-pin connecting cable.

Components of SIMATIC TOP connect system cabling				
Front connector modules	...for digital I/O modules		Voltage supply with - Screw-type terminals - Push-in system	 6ES7921-5AB20-0AA0 6ES7921-5AH20-0AA0
	…for 2 A output module		Voltage supply with - Screw-type terminals - Push-in system	 6ES7921-5AD00-0AA0 6ES7921-5AJ00-0AA0
	...for analog modules			6ES7921-5AK20-0AA0
Terminal modules	TP1	…digital, for 1-wire connection, without LED	- Screw-type terminals - Push-in system	6ES7924-0AA20-0AA0 6ES7924-0AA20-0AC0
		…digital, for 1-wire connection, with LED	- Screw-type terminals - Push-in system	6ES7924-0AA20-0BA0 6ES7924-0AA20-0BC0
	TP2	…digital, for 2-ampere modules, without LED, digital	- Screw-type terminals - Push-in system	6ES7924-0BB20-0AA0 6ES7924-0BB20-0AC0
	TP3	…digital, for 3-wire connection, without LED	- Screw-type terminals - Push-in system	6ES7924-0CA20-0AA0 6ES7924-0CA20-0AC0
		…digital, for 3-wire connection, with LED	- Screw-type terminals - Push-in system	6ES7924-0CA20-0BA0 6ES7924-0CA20-0BC0
	TPF	…for 3-wire connection, with LED, digital and fuse in the signal path	- Screw-type terminals - Push-in terminals	6ES7924-0CL20-0BA0 6ES7924-0CL20-0BC0

Components of SIMATIC TOP connect system cabling				
	TPS	…for 3-wire connection with LED, digital and switch in the signal path	- Screw-type terminal - Push-in system	6ES7924-0CH20-0BA0 6ES7924-0CH20-0BC0
	TPA	...for analog modules, without LED	- Screw-type terminals - Push-in system	6ES7924-0CC20-0AA0 6ES7924-0CC20-0AC0
	TPRi 230 V	Digital, with LED	- Screw-type terminals - Push-in system	6ES7924-0BE20-0BA0 6ES7924-0BE20-0BC0
	TPRi 110 V	Digital, without LED	- Screw-type terminals - Push-in system	6ES7924-0BG20-0BA0 6ES7924-0BG20-0BC0
	TPRo	Digital, with LED	- Screw-type terminals - Push-in system	6ES7924-0BD20-0BA0 6ES7924-0BD20-0BC0
	TPOo	Digital, with LED	- Screw-type terminals - Push-in system	6ES7924-0BF20-0BA0 6ES7924-0BF20-0BC0

Pre-assembled round cable	Length	Unshielded	Shielded
	0.5 m	6ES7923-0BA50-0CB0	...not available
	1.0 m	6ES7923-0BB00-0CB0	6ES7923-0BB00-0DB0
	1.5 m	6ES7923-0BB50-0CB0	...not available
	2.0 m	6ES7923-0BC00-0CB0	6ES7923-0BC00-0DB0
	2.5 m	6ES7923-0BC50-0CB0	6ES7923-0BC50-0DB0
	3.0 m	6ES7923-0BD00-0CB0	6ES7923-0BD00-0DB0
	4.0 m	6ES7923-0BE00-0CB0	6ES7923-0BE00-0DB0
	5.0 m	6ES7923-0BF00-0CB0	6ES7923-0BF00-0DB0
	6.5 m	6ES7923-0BG50-0CB0	6ES7923-0BG50-0DB0
	8.0 m	6ES7923-0BJ00-0CB0	6ES7923-0BJ00-0DB0
	10.0 m	6ES7923-0CB00-0CB0	6ES7923-0CB00-0DB0
Round-sheath ribbon cable 1 x 16-pin, 0.14 mm²	Length	Unshielded	Shielded
	30 m	6ES7923-0CD00-0AA0	6ES7923-0CD00-0BA0
	60 m	6ES7923-0CG00-0AA0	6ES7923-0CG00-0BA0
Round-sheath ribbon cable 2 x 16-pin, 0.14 mm²	30 m	6ES7923-2CD00-0AA0	...not available
	60 m	6ES7923-2CG00-0AA0	...not available

Accessories	16-pin IDC connectors for the round-sheath ribbon cable (x 8)	6ES7921-3BE10-0AA0
	Crimping pliers for fitting the 16-pin IDC connectors	6ES7928-0AA00-0AA0
	20 x 7 mm label, pale turquoise, for fitting to terminal modules (x 340)	3RT1900-1SB20

6.6 Technical specifications for connecting cables

Table 6- 6 Connecting cables

For 6ES7923 - * connecting cables	
Type of supply voltage	DC
Operating voltage	max. 60 V
Max. permissible continuous current	
Per signal line	1 A
Permissible total current per group	
16-pin	4 A / byte
50-pin	2 A / byte
External diameter of pre-fabricated round cable	
Unshielded	16-pin: Approx. 6.5 mm
	50-pin: Approx. 10.5 mm
Shielded	16-pin: Approx. 7 mm
	50-pin: Approx. 11 mm
External diameter of round-sheath ribbon cable to be assembled	
1 x 16-pin, unshielded	Approx. 9.5 mm
1 x 16-pin, shielded	Approx. 10.5 mm
2 x 16-pin, unshielded	Approx. 11.5 mm
Permissible ambient temperature	0 to 60 °C